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# Blast 2 Sequences results

PubMed

Entrez

BLAST

OMIM

Taxonomy

Structure

## BLAST 2 SEQUENCES RESULTS VERSION BLASTN 2.2.5 [Nov-16-2002]

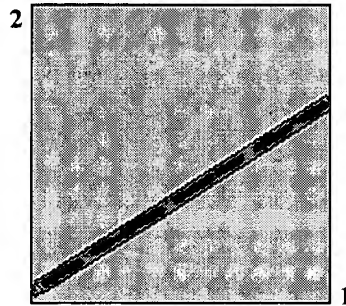
Match:  Mismatch:  gap open:  gap extension:   
 x\_dropoff:  expect:  wordsize:  Filter ☒ Align

Sequence 1 lc|seq\_1 SEQ ID NO:5

Length 2222 (1 .. 2222)

Sequence 2 gi Homo sapiens solute carrier family 40 (iron-regulated transporter), member 1 (SLC40A1),  
 31543639 mRNA

Length 3460 (1 .. 3460)



NOTE: The statistics (bitscore and expect value) is calculated based on the size of nr database

NOTE: If protein translation is reversed, please repeat the search with reverse strand of the query sequence

Score = 4226 bits (2198), Expect = 0.0  
 Identities = 2211/2215 (99%), Gaps = 1/2215 (0%)  
 Strand = Plus / Plus

```

Query:          1   agctggctcagggcgctccgctaggtcggacgacctgctgagcctcccaaaccgcttcca 60
                  |||||N|||||||||||||||||||||||||||||||||||||||||
Sbjct:        126   agctggctcagggcgctccgctaggtcggacgacctgctgagcctcccaaaccgcttcca 185

Query:          61   taaggctttgc-tttccaacttcagctacagtgttagctaagttggaaagaaggaaaaa 119
                  |||||N|||||||||||||||||||||||||||||||||||||||||
Sbjct:        186   taaggctttgcctttccaacttcagctacagtgttagctaagttggaaagaaggaaaaa 245

Query:          120   agaaaatccctgggcccccttttctttgttctttgccaaagtcgctggtttagtctttt 179
                  |||||N|||||||||||||||||||||||||||||||||||||||||
Sbjct:        246   agaaaatccctgggcccccttttctttgttctttgccaaagtcgctggtttagtctttt 305

Query:          180   gcccaaggctgttgtgttttttagaggtgctatctccagttccttgcactcctgttaacaa 239
                  |||||N|||||||||||||||||||||||||||||||||||||||||
Sbjct:        306   gcccaaggctgttgtgttttttagaggtcctatctccagttccttgcactcctgttaacaa 365

Query:          240   gcacctcagcgagagcagcagcagcgatagcagccgcagaagagccagcggggtcgccta 299
                  |||||N|||||||||||||||||||||||||||||||||||||||||
Sbjct:        366   gcacctcagcgagagcagcagcagcgatagcagccgcagaagagccagcggggtcgcgta 425

Query:          300   gtgtcatgaccagggcgggagatcacaaccgccagagaggatgctgtggatccttggccg 359
                  |||||N|||||||||||||||||||||||||||||||||||||||||
Sbjct:        426   gtgtcatgaccagggcgggagatcacaaccgccagagaggatgctgtggatccttggccg 485
  
```

Exhibit 1

solute carrier family 40 (iron-&gt; 1

M T R A G D H N R Q R G C C G S L A

Query: 360 actacctgacctctgcaaaattccttctctaccttgggtcattctctctctacttggggag 419  
|||||  
Sbjct: 486 actacctgacctctgcaaaattccttctctaccttgggtcattctctctctacttggggag 545  
solute carrier family 40 (iron-> 19 D Y L T S A K F L L Y L G H S L S T W G

Query: 420 atcggatgtggcactttgcggtgtctgtgtttctggtagagctctatggaaacagcctcc 479  
|||||  
Sbjct: 546 atcggatgtggcactttgcggtgtctgtgtttctggtagagctctatggaaacagcctcc 605  
solute carrier family 40 (iron-> 39 D R M W H F A V S V F L V E L Y G N S L

Query: 480 ttttgacagcagctctacgggctggtggcagggctgttctggtcctgggagccatca 539  
|||||  
Sbjct: 606 ttttgacagcagctctacgggctggtggcagggctgttctggtcctgggagccatca 665  
solute carrier family 40 (iron-> 59 L L T A V Y G L V V A G S V L V L G A I

Query: 540 tcggtgactgggtggacaagaatgctagacttaaagtggcccagacctcgctggtggtac 599  
|||||  
Sbjct: 666 tcggtgactgggtggacaagaatgctagacttaaagtggcccagacctcgctggtggtac 725  
solute carrier family 40 (iron-> 79 I G D W V D K N A R L K V A Q T S L V V

Query: 600 agaatgtttcagtcacctgtgtggaatcatcctgatgatggttttcttacataaacatg 659  
|||||  
Sbjct: 726 agaatgtttcagtcacctgtgtggaatcatcctgatgatggttttcttacataaacatg 785  
solute carrier family 40 (iron-> 99 Q N V S V I L C G I I L M M V F L H K H

Query: 660 agcttctgaccatgtaccatggatgggttctcacttctgctatcctgatcatcacta 719  
|||||  
Sbjct: 786 agcttctgaccatgtaccatggatgggttctcacttctgctatcctgatcatcacta 845  
solute carrier family 40 (iron-> 119 E L L T M Y H G W V L T S C Y I L I I T

Query: 720 ttgcaaatattgcaaatgtggccagtactgctactgcaatcacaaatccaaagggattgga 779  
|||||  
Sbjct: 846 ttgcaaatattgcaaatgtggccagtactgctactgcaatcacaaatccaaagggattgga 905  
solute carrier family 40 (iron-> 139 I A N I A N L A S T A T A I T I Q R D W

Query: 780 ttgttgttgttgaggagaagacagaagcaaaactagcaaatatgaatgccacaatacgaa 839  
|||||  
Sbjct: 906 ttgttgttgttgaggagaagacagaagcaaaactagcaaatatgaatgccacaatacgaa 965  
solute carrier family 40 (iron-> 159 I V V V A G E D R S K L A N M N A T I R

Query: 840 ggattgaccagttaaccaacatcttagccccatggctgttgccagattatgacatttg 899  
|||||  
Sbjct: 966 ggattgaccagttaaccaacatcttagccccatggctgttgccagattatgacatttg 1025  
solute carrier family 40 (iron-> 179 R I D Q L T N I L A P M A V G Q I M T F

Query: 900 gctccccagtcacggtgtggttttatttcgggatggaacttggtatccatgtgcgtgg 959  
|||||  
Sbjct: 1026 gctccccagtcacggtgtggttttatttcgggatggaacttggtatccatgtgcgtgg 1085  
solute carrier family 40 (iron-> 199 G S P V I G C G F I S G W N L V S M C V

Query: 960 agtacgtcctgctctggaaggtttaccagaaaacccagctctagctgtgaaagctggtc 1019  
|||||  
Sbjct: 1086 agtacgttctgctctggaaggtttaccagaaaacccagctctagctgtgaaagctggtc 1145  
solute carrier family 40 (iron-> 219 E Y V L L W K V Y Q K T P A L A V K A G

Query: 1020 ttaaagaagaggaaactgaattgaaacagctgaatttacacaaagatactgagccaaaac 1079  
|||||

Sbjct: 11 ttaaagaagaggaaactgaattgaaacagctgaaacacacaaagatactgagccaaaac 1205  
solute carrier family 40 (iron- 239 L K E E E T E L K Q L N L H K D T E P K

Query: 1080 ccctggagggaactcatctaattgggtgtgaaagactctaacatccatgagcttgaacatg 1139  
|||||

Sbjct: 1206 ccctggagggaactcatctaattgggtgtgaaagactctaacatccatgagcttgaacatg 1265  
solute carrier family 40 (iron- 259 P L E G T H L M G V K D S N I H E L E H

Query: 1140 agcaagagcctacttgtgcctcccagatggctgagcccttccgtaccttccgagatggat 1199  
|||||

Sbjct: 1266 agcaagagcctacttgtgcctcccagatggctgagcccttccgtaccttccgagatggat 1325  
solute carrier family 40 (iron- 279 E Q E P T C A S Q M A E P F R T F R D G

Query: 1200 gggctctcctactacaaccagcctgtgtttctggctggcatgggtcttgctttcctttata 1259  
|||||

Sbjct: 1326 gggctctcctactacaaccagcctgtgtttctggctggcatgggtcttgctttcctttata 1385  
solute carrier family 40 (iron- 299 W V S Y Y N Q P V F L A G M G L A F L Y

Query: 1260 tgactgtcctgggctttgactgcatcaccacagggtagcctacactcagggactgagtg 1319  
|||||

Sbjct: 1386 tgactgtcctgggctttgactgcatcaccacagggtagcctacactcagggactgagtg 1445  
solute carrier family 40 (iron- 319 M T V L G F D C I T T G Y A Y T Q G L S

Query: 1320 gttccatcctcagtattttgatgggagcatcagctataactggaataatgggaactgtag 1379  
|||||

Sbjct: 1446 gttccatcctcagtattttgatgggagcatcagctataactggaataatgggaactgtag 1505  
solute carrier family 40 (iron- 339 G S I L S I L M G A S A I T G I M G T V

Query: 1380 cttttacttggtacgtcgaaaatgtggtttggttcggacaggtctgatctcaggattgg 1439  
|||||

Sbjct: 1506 cttttacttggtacgtcgaaaatgtggtttggttcggacaggtctgatctcaggattgg 1565  
solute carrier family 40 (iron- 359 A F T W L R R K C G L V R T G L I S G L

Query: 1440 cacagctttcctgtttgatcttgtgtgtgatctctgtattcatgcctggaagccccctgg 1499  
|||||

Sbjct: 1566 cacagctttcctgtttgatcttgtgtgtgatctctgtattcatgcctggaagccccctgg 1625  
solute carrier family 40 (iron- 379 A Q L S C L I L C V I S V F M P G S P L

Query: 1500 acttgtccggtttctccttttgaagatatccgatcaagggtcattcaaggagagtcaatta 1559  
|||||

Sbjct: 1626 acttgtccggtttctccttttgaagatatccgatcaagggtcattcaaggagagtcaatta 1685  
solute carrier family 40 (iron- 399 D L S V S P F E D I R S R F I Q G E S I

Query: 1560 cacctaccaagatacctgaaattacaactgaaatatacatgtctaattgggtctaattctg 1619  
|||||

Sbjct: 1686 cacctaccaagatacctgaaattacaactgaaatatacatgtctaattgggtctaattctg 1745  
solute carrier family 40 (iron- 419 T P T K I P E I T T E I Y M S N G S N S

Query: 1620 ctaatatgtcccggagacaagtcctgaatctgtgccataatctctgtcagtcctgtgt 1679  
|||||

Sbjct: 1746 ctaatatgtcccggagacaagtcctgaatctgtgccataatctctgtcagtcctgtgt 1805  
solute carrier family 40 (iron- 439 A N I V P E T S P E S V P I I S V S L L

Query: 1680 ttgcaggcgctcattgctgctagaatcggtctttggctcctttgatttaactgtgacacagt 1739  
|||||

Sbjct: 1806 ttgcaggcgctcattgctgctagaatcggtctttggctcctttgatttaactgtgacacagt 1865  
solute carrier family 40 (iron- 459 F A G V I A A R I G L W S F D L T V T Q

Query: 1740 tgctgcaagaaaatgtaattgaatctgaaagaggcattataaatggtgtacagaactcca 1799

```
|||||
Sbjct: 1866 tgctgcaagaaaatgtaattgaatctgaaagaggcattataaatggtgtacagaactcca 1925
solute carrier family 40 (iron- 479 L L Q E N V I E S E R G I I N G V Q N S

Query: 1800 tgaactatcttcttgatcttctgcatttcacatcgtgcatcctggctccaaatcctgaag 1859
|||||
Sbjct: 1926 tgaactatcttcttgatcttctgcatttcacatcgtgcatcctggctccaaatcctgaag 1985
solute carrier family 40 (iron- 499 M N Y L L D L L H F I M V I L A P N P E

Query: 1860 cttttggcttgctcgtattgatttcagtctcctttgtggcaatgggccacattatgtatt 1919
|||||
Sbjct: 1986 cttttggcttgctcgtattgatttcagtctcctttgtggcaatgggccacattatgtatt 2045
solute carrier family 40 (iron- 519 A F G L L V L I S V S F V A M G H I M Y

Query: 1920 tccgatttgcccaaaataactctgggaaacaagctctttgcttgcggtcctgatgcaaaag 1979
|||||
Sbjct: 2046 tccgatttgcccaaaataactctgggaaacaagctctttgcttgcggtcctgatgcaaaag 2105
solute carrier family 40 (iron- 539 F R F A Q N T L G N K L F A C G P D A K

Query: 1980 aagtttaggaaggaaaatcaagcaaatacatctgttgtttgagacagtttaactgttgcta 2039
|||||
Sbjct: 2106 aagtttaggaaggaaaatcaagcaaatacatctgttgtttgagacagtttaactgttgcta 2165
solute carrier family 40 (iron- 559 E V R K E N Q A N T S V V ^^

Query: 2040 tcctgttactagattatatagagcacatgtgcttattttgtactgcagaattccaataaa 2099
|||||
Sbjct: 2166 tcctgttactagattatatagagcacatgtgcttattttgtactgcagaattccaataaa 2225

Query: 2100 tggctgggtgttttgctctgtttttaccacagctgtgccttgagaactaaaagctgttta 2159
|||||
Sbjct: 2226 tggctgggtgttttgctctgtttttaccacagctgtgccttgagaactaaaagctgttta 2285

Query: 2160 ggaaacctaagtcagcagaaattaactgattaatttccttatgttgaggcatgg 2214
|||||
Sbjct: 2286 ggaaacctaagtcagcagaaattaactgattaatttccttatgttgaggcatgg 2340
```

CPU time: 0.11 user secs. 0.04 sys. secs 0.15 total secs.

Lambda	K	H
1.33	0.621	1.12

Gapped Lambda	K	H
1.33	0.621	1.12

Matrix: blastn matrix:1 -2  
Gap Penalties: Existence: 5, Extension: 2  
Number of Hits to DB: 6  
Number of Sequences: 0  
Number of extensions: 6  
Number of successful extensions: 2  
Number of sequences better than 10.0: 1  
Number of HSP's better than 10.0 without gapping: 1  
Number of HSP's successfully gapped in prelim test: 0  
Number of HSP's that attempted gapping in prelim test: 0  
Number of HSP's gapped (non-prelim): 1  
length of query: 2222  
length of database: 8,425,022,531  
effective HSP length: 26  
effective length of query: 2196  
effective length of database: 8,425,022,505  
effective search space: 18501349420980  
effective search space used: 18501349420980

## Blast Result

Page 5 of 5

T: 0  
A: 0  
X1: 6 (11.5 bits)  
X2: 26 (50.0 bits)  
S1: 12 (23.8 bits)  
S2: 21 (41.1 bits)